

REMARKS

Claims 1-25 remain pending in this application. Each of the pending claims is believed to define an invention that is novel and unobvious over the cited references. Favorable reconsideration of this case is respectfully requested.

Regarding the objections to the drawings, replacement sheets for Figures 1, 3, 4, 5 and 6 are submitted herewith on separate sheets. The replacement sheets make the changes requested by the Examiner. In view of the changes, the withdrawal of the object to the drawings is respectfully requested.

The disclosure has been amended to correct the informalities noted by the Examiner. As such, the withdrawal of the object to the disclosure is respectfully requested.

Claims 12-20 and 25 have been objected to due to various informalities. The claims have been amended to correct the informalities noted by the Examiner. Therefore, the withdrawal of the objection to the claims is respectfully requested.

Claims 1-20, 22 and 25 have been rejected under 35 U.S.C. 112, second paragraph as being indefinite. In particular, with respect to claims 1 and 22, the meaning of the term "residual error" is questioned. In the present application, the term "residual error" is given its standard meaning in regression analysis. Regression analysis is an attempted to fit data to a model of a prespecified form. Non-linear regression differs from linear regression in that there is, in general, no algebraic expression for the best fit perimeters. However, the approach is iterative, where the parameters for the model are modified over a range of values and it is attempted to optimize the parameters to define the best possible fit to the model. The qualification of fit is simply a point by point comparison of the difference between the model predicted value and the data. The differences are the residuals. Generally the magnitudes of the differences are examined so that positive and negative differences don't canceled each other out. This may be done by simply looking at the absolute values of the residual errors or by the squares of the differences.

In particular, the residual error is describe in paragraph 35 and 36 of the present application. For example, each model of contact mechanics predicts a relationship, based on parameters of the tip and sample, between applied force and sample indentation. Once a model of contact mechanics is selected, the residual errors represent the differences between measured and model-predicted values of sample indentation, determined at measured values of applied force. The magnitude of the residual error associated with each point, calculated either by the absolute value of the difference or by the square of the difference, is summed to obtain the total residual error. It is respectfully submitted that one of ordinary skill of the art reading the claims in view of the specification would understand the meaning of residual error.

Claim 25 has been amended to correct the informality noted by the Examiner.

In view of the above, it is respectfully submitted that all pending claims are in compliance with 35 U.S.C. 112, second paragraph. Therefore, the withdrawal of this rejection is respectfully requested.

Claims 21, 23, 24 have been allowed.

Accordingly, early issuance of a Notice of Allowance is respectfully solicited.

If the Examiner is of the opinion that the prosecution of this application would be advanced by a personal interview, the Examiner is invited to telephone undersigned counsel to arrange for such an interview.

The Commissioner is authorized to charge any fee necessitated by this Amendment to our Deposit Account No. 22-0261.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

By 
Jeffri A. Kaminski

Registration No.: 42,709
VENABLE LLP
P.O. Box 34385
Washington, DC 20043-9998
(202) 344-4000
(202) 344-8300 (Fax)
Attorney/Agent For Applicant

Attachments

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Figures 1, 3, 4, 5, 6.

Attachment: Replacement sheet